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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,680	12/31/2003	Andrew J. Polcha	IQB-0015 (2203.0015C)	1992

27896 7590 04/19/2007 EDELL, SHAPIRO & FINNAN, LLC 1901 RESEARCH BOULEVARD SUITE 400 ROCKVILLE, MD 20850	EXAMINER
	WILLIAMS, KENT L

ART UNIT	PAPER NUMBER
2139	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/748,680	POLCHA ET AL.
	Examiner	Art Unit	
	Kent L. Williams	2139	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 December 2003</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-89</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-89</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>31 December 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>16 January 2004</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Priority

1.   The claims to Provisional Applications Nos. 60/470,204 and 60/436,996 have been

noted. However, the subject matter contained within the Provisional Applications is

only pertinent to a select few of the claims. Only the claims that the subject matter

converses will be awarded the Provisional filing dates if such discrimination is

necessary.

Drawings

1.   New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because the filed hand drawings do have formal drawing counterparts that

should be included with the application. If said formal drawing counterparts are

inadequate, applicant is advised to employ the services of a competent patent

draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer

prepares new drawings. The corrected drawings are required in reply to the Office

action to avoid abandonment of the application. The requirement for corrected drawings

will not be held in abeyance.

Information Disclosure Statement

2.   The information disclosure statement filed 16 January 2004 fails to comply with

37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document;

each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. "Intelligent Biometric Techniques in Fingerprint and Face Recognition" by Jain, L.C. has been placed in the application file as it was obtainable, but the information referred to therein has not been considered.

Specification

3.   The disclosure is objected to because of the following informalities: "May programmed" should be "may be programmed" on page 15, line 1. There is an error in the Application number found on page 18, line 18. "May be" should be "may" on page 20, line 16. The Examiner believes that the inclusion of "refraction," found on line 2 of page 22, is in error (as a refractive property would inhibit the attainment of the image passing there through).

Appropriate correction is required.

4.   The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code that is found on page 15, line 1, page 16, line 4, page 17, line 9 and page 22, line 14. Please see MPEP §608.01.

5.   The serial numbers of the applications presented within the "Reference to Related Applications" are absent.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claims 59, 61, 67, 69, 78 and 80 rejected under 35 U.S.C. 112, second

paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention. The claims in question all

recite "another one of the unique identity attributes," which is indefinite regarding either

antecedent basis in terms of which 'unique identity attribute' is referred to or if it is an

additional 'ID attribute.'

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 1, 35, 58, 66, 77, 88 and 89 are rejected under 35 U.S.C. 101 because the

claimed invention is directed to non-statutory subject matter. The claims recite

"detecting," "comparing," and "determining." However, the claims fail to evidence a

tangible result, where said steps could be conducted as a mere thought process and

therefore lacking any physical attributes.

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10.   Claims 1-24, 27-51 and 54-89 are rejected under 35 U.S.C. 102(b) as being

anticipated by Ratha, N.K. et al. "Enhancing Security and Privacy in Biometric-based

Authentication Systems."

Claims 1 and 35 (method and system thereof). An identification method, comprising:

detecting a distorted biometric...; comparing....; and determining... **[Page 618, ¶2, "To**

authenticate...acquisition variables" in conjunction with Page 629, ¶2, "In order to

alleviate...cannot be recovered."].

Claim 2-3. [Page 614, ¶4, "Biometrics is a rapidly advancing field that is

concerned with identifying a person based on his or her physiological or

behavioral characteristics. Examples of automated biometrics include

fingerprint, face, iris and speech recognition." Please note that the iris forms an

'eye pattern,' which is used for authentication.]

Claim 4. [Figure 10 shows an image through a non-linear lens (either in physical

or signal space).]

Claim 5-7. [Page 630, ¶2, "An example of a transform...particular enrollment,"

where diffraction grating is one embodiment of a perturbation in "the same

physical space as the original." Page 629-630, ¶4, "Examples of...22 and 23"

shows claim 6 'electronically generated.']

Claims 8-9. [Page 614, ¶4 for fingerprint biometric, and Page 630, Page 614, ¶2,

"An example of a transform...in Figure 12."]

Claims 10-14. [Page 630, ¶2, "An example of a transform...as the original," where

teaching perturbations within the same physical space teaches the use of a mask,

a lens, or any other object/template capable of perturbing any image and any of

its features. It should be noted that the paragraph also outlines such

perturbations in the image processing or signal space.]

Claims 15-24. [Rejected per claims 10-14 in conjunction with Page 614, ¶Abstract,

"Although, for illustrative purposes, fingerprint authentication is used

throughout, our analysis extends to other biometrics-based methods." Please

note that a 'mask pattern' is a perturbation of the image or a "...repeatable

noninvertible distortion to the biometric (Page 633, last paragraph)."]

Claims 27. [Page 628, ¶4, "Deploying biometrics...commercial enterprises" in

conjunction with Page 629, ¶2, "In order to alleviate...biometrics cannot be

recovered."]

Claims 28-29. [Page 632-634, ¶2-3, "When employing cancelable...added to

prevent such misuse," teaches *all forms* and locations of template/biometric

storage.]

Claims 30. [Page 616, ¶5, "In the final stage...legally binding evidence of

identity."]

Claim 31-32. [Table 1.]

Claim 33. [The Examiner wishes to take official notice that a "lens included in an

eyepiece carried by [a] person" is well known (in general) as "glasses" or

"spectacles."]

Claim 34. [Figure 13.]

Claims 36-57. [Rejected per their respective claims 2-34.]

Claims 58 and 66 and 77 (method and system thereof and computer-readable

medium embodiment thereof). An identification method, comprising:

Receiving a signal indicative of a combination of two or more unique identity attributes,

at least one of the unique identity attributes corresponding to a biometric of a person

[Page 629, ¶2, "In order to alleviate...biometrics cannot be recovered" where the

"transform function" is a identity attribute, which is evidenced by Page 633, ¶1,

"Alternatively, for the best...prevent such misuse" showing that the "transform

function" is synonymous with a password that is combined with the biometric

identity.]; comparing...; and determining... **[Page 618, ¶2, "To**

authenticate...acquisition variables."].

Claims 59-65, 67-76 and 78-84. [Rejected per their respective claims 2-34.]

Claims 85-87. [Page 632, ¶2, "When employing...institution for processing,"

where teaching storing digital data teaches storing said data on all well-known

media such as CD-ROM (optical), hard disk (magnetic) or at the transistor-level

(IC chip).]

Claims 88 and 89 (method and system therof). A method for identifying a person,

comprising:

generating an encoded biometric **[Page 616, ¶3, "Fingerprints are a**

distinctive...referred to as *minutiae.***" "Digitizing" a fingerprint is encoding.]**;

detecting the encoded biometric; comparing...; and determining... **[Page 618, ¶2, "To**

authenticate...acquisition variables" in conjunction with Page 629, ¶2, "In order to

alleviate...cannot be recovered."]

Claim Rejections - 35 USC § 103

11.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

13.   Claims 25, 26, 52 and 53 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ratha, N.K. et al. "Enhancing Security and Privacy in Biometric-

based Authentication Systems."

Ratha et al. teach the use of cancelable/recoverable biometrics through the use

of perturbations in either the physical space (e.g., a distortion caused by a physical

element) or the signal space (e.g., remapping or other nonlinear distortion methods

and/or algorithms on the data once captured by the device), as is outlined within the

rejection under 35 U.S.C. §102 above. These methods are inclusive to all biometrics

capable of being captured by imaging devices (e.g., fingerprint scanner, iris scanner,

voice recorder, or just a camera to capture facial images). However, Ratha et al. fail to

teach the use of DNA samples as biometric authentication data.

Despite, Ratha et al. teach the methods used by the instant application for

analyzing DNA data without explicitly stating said methods are for DNA sample

analysis. The instant application teaches analysis of the DNA sample as a type of bar

code, which is to say that its distortion and analysis is contingent with the previously

presented biometric distortion and analysis. Please see page 23, lines 4-6 of the instant

application. Using a "photograph...bearing a person's DNA sequence (Page 23, lines

8-9)" is the equivalent to all other biometric analysis regarding authentication using

distorted biometrics. This is evidenced by "In operation, the person holds the [DNA]

carrier next to the camera, the masked pattern is detected, and the person's

identification confirmed. (Page 23, lines 13-14)."

Therefore, it would have been obvious at the time the invention was made to a

person having ordinary skill in the art to include a DNA sample as an additional

biometric to the distorted-biometric authentication system because Ratha et al. state

"Although, for illustrative purposes, fingerprint authentication is used throughout, our

analysis extends to other biometric-based methods. (Abstract)."

Double Patenting

14.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

15.   Claims 1-89 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1-29 of

copending Application No. 10/748,436. Although the conflicting claims are not identical,

they are not patentably distinct from each other because both sets of claims are drawn

to biometric distortion for privacy and revocation (or cancellation). An exemplary list of the claim correlation is easily shown comparing claim 58 of the instant application to claim 29 of the copending application, where the instant applications "combination of two or more unique identity attributes" is equivalent to "combining two degrees of uniqueness" of the copending application, and "biometric" & "distortion pattern" (claim 59) are equivalent to "print" & "print modifier" of the copending application.

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16.   Claims 1-89 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-54 of copending Application No. 10/748,435. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are drawn to biometric distortion for privacy and revocation (or cancellation). An exemplary list of the claim correlation is easily shown comparing claim 58 of the instant application to claim 1 of the copending application, where there only difference in claim language is "determining" in the instant application was changed to "controlling" in the copending application.

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

17.   Claims 1-89 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-33 of copending Application No. 10/748,743. Although the conflicting claims are not identical, they are not

patentably distinct from each other because both sets of claims are drawn to biometric distortion for privacy and revocation (or cancellation). An exemplary list of the claim correlation is easily shown comparing claim 1 of the instant application to claim 1 of the copending application, where the instant applications "distorted biometric" is equivalent to "distorted print", and the instant applications "comparing…" and "determining…" is equivalent to the copending application's "compares…" and "controls access".

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

18.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent L. Williams whose telephone number is 571-270-1376. The examiner can normally be reached on Mon-Fri 7:00-4:30 with Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Williams
3/29/2007

CHRISTOPHER REVAK
PRIMARY EXAMINER